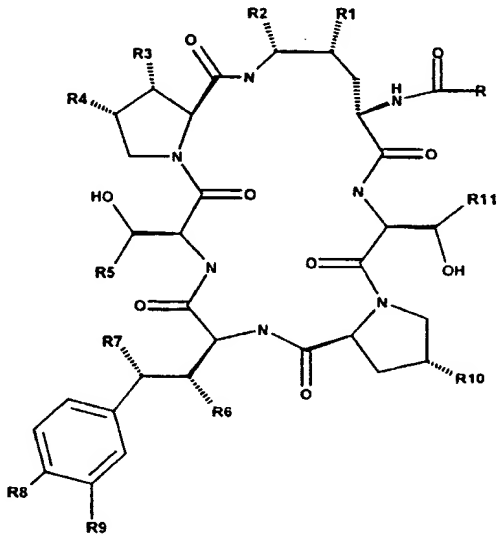
We claim:

1. An echinocandin/carbohydrate complex comprising a carbohydrate and an echinocandin compound represented by the following structure:



wherein:

R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, heteroaryl group, or combinations thereof;

R_1, R_2, R_3, R_6, R_7, and R_{10} are independently hydroxy or hydrogen;

R_4 is hydrogen, methyl or $-CH_2C(O)NH_2$;

R_5 and R_{11} are independently methyl or hydrogen;

R_8 is -OH, $-OSO_3H$, $-OPO_3H_2$, $-OPO_3HR^a$, or $-OPO_2HR^a$, where R^a is hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy;

R_9 is -H, -OH, or $-OSO_3H$; and

pharmaceutically acceptable salts or hydrates thereof.

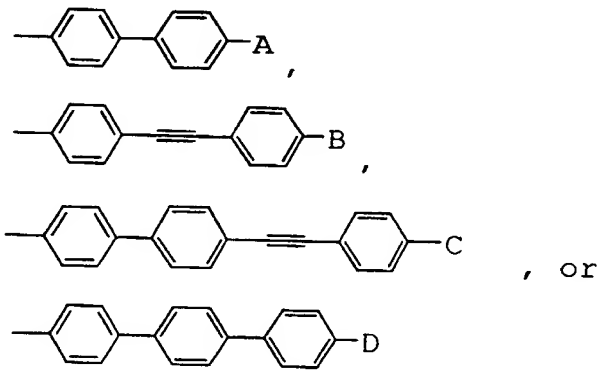
2. The complex of Claim 1 wherein

R_4, R_5 and R_{11} are each methyl;

R_2 and R_7 are independently hydrogen or hydroxy; R_1, R_3, R_6 and R_{10} are each hydroxy;

R_8 is -OH, $-OPO_3HR^a$, or $-OPO_2HR^a$, where R^a is methyl;

R is linoleoyl, palmitoyl, stearoyl, myristoyl, 12-methylmyristoyl, 10,12-dimethylmyristoyl, or a group having the general structure:



, or

where A, B, C and D are independently hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkynyl, C_1-C_{12} alkoxy, C_1-C_{12} alkylthio, halo, or -O-$(CH_2)_m$-$[O$-$(CH_2)_n]_p$-O-(C_1-C_{12} alkyl) or -O-$(CH_2)_q$-X-E; m is 2, 3 or 4;

n is 2, 3 or 4; p is 0 or 1; q is 2, 3 or 4;

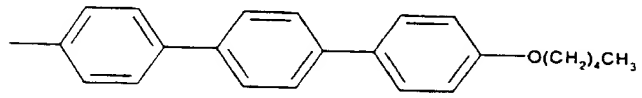
X is pyrrolidino, piperidino or piperazino;

E is hydrogen, C_1-C_{12} alkyl, C_3-C_{12} cycloalkyl, benzyl or C_3-C_{12} cycloalkylmethyl.

3. The complex of claim 2 wherein

R_2 and R_7 are each hydroxy;

R_8 is hydroxy; and

R = 

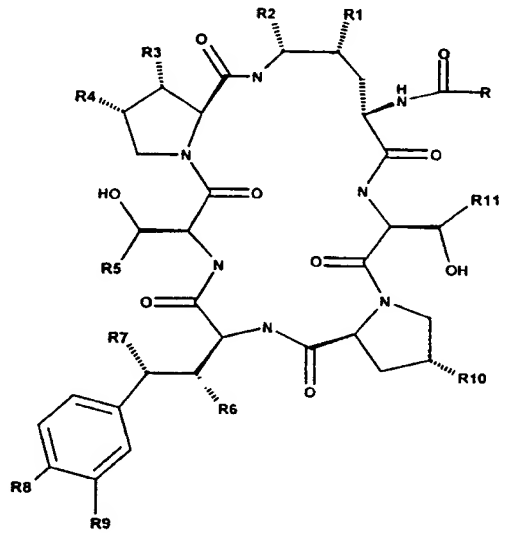
4. The complex of Claim 1 wherein said carbohydrate is selected from the group consisting of adonitol, arabinose, arabitol, ascorbic acid, chitin, D-cellubiose, 2-deoxy-D-ribose, dulcitol, (S)-(+)-erythrulose, fructose, fucose, galactose, glucose, inositol, lactose, lactulose, lyxose, maltitol, maltose, maltotriose, mannitol, mannose, melezitose, melibiose, microcrystalline cellulose, palatinose, pentaerythritol, raffinose, rhamnose, ribose, sorbitol, sorbose, starch, sucrose, trehalose, xylitol, xylose and hydrates thereof.

5. The complex of Claim 3 wherein said carbohydrate is selected from the group consisting of L-arabinose, D-arabitol, L-arabitol, 2-deoxy-D-ribose, (S)-(+)-erythrulose, D-fructose, D-(+)-fucose, L-fucose, D-galactose, α-D-glucose, β-D-glucose, L-glucose, D-lyxose, L-lyxose, maltitol, D-maltose, maltotriose, D-mannose, melezitose, palatinose, D-

raffinose, L-rhamnose, D-ribose, D-sorbitol, D-trehalose, xylitol, L-xylose and hydrates thereof.

6. The complex of Claim 5 wherein said carbohydrate is selected from the group consisting of L-arabinose, D-arabitol, L-arabitol, 2-deoxy-D-ribose, (S)-(+)-erythrulose, D-fructose, D-(+)-fucose, L-fucose, D-galactose, β-D-glucose, D-lyxose, L-lyxose, D-maltose, maltotriose, melezitose, palatinose, D-raffinose, D-sorbitol, D-trehalose, xylitol, L-xylose and hydrates thereof.

7. A Echinocandin/carbohydrate complex prepared by the steps of:
(a) providing an echinocandin compound represented by the following structure



wherein

R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, heteroaryl group, or combinations thereof,

R_1, R_2, R_3, R_6, R_7, and R_{10} are independently hydroxy or hydrogen,

R_4 is hydrogen, methyl or $-CH_2C(O)NH_2$,

R_5 and R_{11} are independently methyl or hydrogen,

R_8 is -OH, $-OSO_3H$, $-OPO_3H_2$, $-OPO_3HR^a$, or $-OPO_2HR^a$, where R^a is hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-

nitrophenoxy, benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy;

R_9 is -H, -OH, or $-OSO_3H$, and

pharmaceutically acceptable salts or hydrates thereof;

(b) mixing together said echinocandin compound of step (a) to a carbohydrate in a solvent to form a mixture;

(c) heating said mixture to solubilize said echinocandin compound and to solubilize or disperse said carbohydrate;

(d) allowing said mixture to cool to produce said echinocandin/carbohydrate complex; and

(e) isolating said echinocandin/carbohydrate complex.

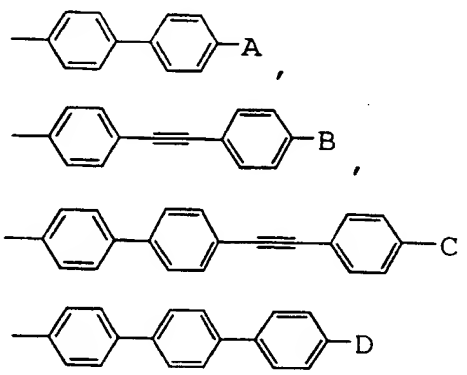
8. The complex of Claim 7 wherein

R_4, R_5 and R_{11} are each methyl;

R_2 and R_7 are independently hydrogen or hydroxy; R_1, R_3, R_6 and R_{10} are each hydroxy;

R_8 is -OH, $-OPO_3HR^a$, or $-OPO_2HR^a$, where R^a is methyl;

R is linoleoyl, palmitoyl, stearoyl, myristoyl, 12-methylmyristoyl, 10,12-dimethylmyristoyl, or a group having the general structure:



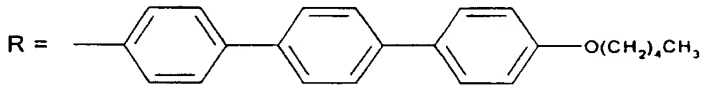
, or

where A, B, C and D are independently hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkynyl, C_1-C_{12} alkoxy, C_1-C_{12} alkylthio, halo, or $-O-(CH_2)_m-[O-(CH_2)_n]_p-O-(C_1-C_{12}$ alkyl) or $-O-(CH_2)_q$-X-E;

m is 2, 3 or 4;

n is 2, 3 or 4; p is 0 or 1; q is 2, 3 or 4;
X is pyrrolidino, piperidino or piperazino;
E is hydrogen, C_1-C_{12} alkyl, C_3-C_{12} cycloalkyl, benzyl or C_3-C_{12} cycloalkylmethyl.

9. The complex of claim 8 wherein
R_2 and R_7 are each hydroxy;
R_8 is hydroxy; and



10. The complex of Claim 7 wherein said carbohydrate is selected from the group consisting of adonitol, arabinose, arabitol, ascorbic acid, chitin, D-cellubiose, 2-deoxy-D-ribose, dulcitol, (S)-(+)-erythrulose, fructose, fucose, galactose, glucose, inositol, lactose, lactulose, lyxose, maltitol, maltose, maltotriose, mannitol, mannose, melezitose, melibiose, microcrystalline cellulose, palatinose, pentaerythritol, raffinose, rhamnose, ribose, sorbitol, sorbose, starch, sucrose, trehalose, xylitol, xylose and hydrates thereof.

11. The complex of Claim 9 wherein said carbohydrate is selected from the group consisting of L-arabinose, D-arabitol, L-arabitol, 2-deoxy-D-ribose, (S)-(+)-erythrulose, D-fructose, D-(+)-fucose, L-fucose, D-galactose, α-D-glucose, β-D-glucose, L-glucose, D-lyxose, L-lyxose, maltitol, D-maltose, maltotriose, D-mannose, melezitose, palatinose, D-raffinose, L-rhamnose, D-ribose, D-sorbitol, D-trehalose, xylitol, L-xylose and hydrates thereof.

12. The complex of Claim 9 wherein said carbohydrate is selected from the group consisting of L-arabinose, D-arabitol, L-arabitol, 2-deoxy-D-ribose, (S)-(+)-erythrulose, D-fructose, D-(+)-fucose, L-fucose, D-galactose, β-D-glucose, D-lyxose, L-lyxose, D-maltose, maltotriose, melezitose, palatinose, D-raffinose, D-sorbitol, D-trehalose, xylitol, L-xylose and hydrates thereof.

13. The complex of Claim 7 wherein said solvent is selected from the group consisting of methanol, ethanol, benzyl alcohol, mixtures of benzyl alcohol with methanol, ethanol, *n*-propanol, isopropanol, *n*-butanol, 2-butanol, *t*-butanol, 2-pentanol, 2-methyl-1-propanol, MEK, acetone, ethyl acetate, toluene, acetonitrile, fluorobenzene, methylene chloride, nitromethane, cyclopentanone and cyclohexanone.

14. The complex of Claim 13 wherein said solvent is selected from the group consisting of methanol, ethanol, benzyl alcohol, and mixtures of benzyl alcohol with methyl ethyl ketone, ethyl acetate, and acetonitrile.

15. The complex of Claim 14 wherein said solvent is methanol.

16. The complex of Claim 15 wherein said carbohydrate is soluble in said methanol when heated to about 40° to 60°C.

17. The complex of Claim 15 wherein said carbohydrate is highly soluble in said methanol when heated to about 40° to 60°C.

18. The complex of Claim 15 wherein said carbohydrate is insoluble in said methanol when heated to about 40° to 60°C.

19. The complex of Claim 7 wherein said carbohydrate co-crystallizes with said echinocandin compound.

20. A process for preparing a parenteral formulation comprising the step of (i) mixing the echinocandin/carbohydrate complex of Claim 1 in an aqueous solvent.

21. The process of Claim 20 further comprising the steps of (ii) sterile filtering and (iii) freeze-drying.

22. A pharmaceutical formulation comprising the echinocandin/carbohydrate complex of Claim 1 and a pharmaceutically acceptable excipient.

23. The pharmaceutical formulation of Claim 22 wherein said excipient is selected from the group consisting of tonicity agents, stabilizing agents, buffers, bulking agents surfactants, and combinations thereof.

24. A method for treating a fungal infection in a mammal in need thereof, which comprises administering to said mammal the echinocandin/carbohydrate complex of Claim 1.

25. The method of Claim 24 wherein said fungal infection arises from *Candida albicans* or *Aspergillus fumigatis* activity.

26. A method for treating an antifungal infection in a mammal in need thereof, which comprises contacting a echinocandin/carbohydrate complex of Claim 1 with bodily fluids

of said mammal, wherein said complex collapses to an amorphous form when contacted with said bodily fluids.

27. The method of Claim 26 wherein said fungal infection arises from *Candida albicans* or *Aspergillus fumigatis* activity.